1. Record Nr. UNINA9910785240803321

Titolo	Porous media : applications in biological systems and biotechnology / / editor, Kambiz Vafai
Pubbl/distr/stampa	Boca Raton : , : Taylor & Francis, , 2011
ISBN	0-429-14162-9 1-4200-6542-4
Descrizione fisica	1 online resource (602 p.)
Altri autori (Persone)	VafaiK (Kambiz)
Disciplina	610.28/4
Soggetti	Biomedical materials Biotechnology - Materials Porous materials - Fluid dynamics Porous materials - Thermal properties Tissue engineering Biofilms
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	A CRC title.
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Front cover; Contents; Preface; Editor; Contributors; Chapter 1: A General Set of Bioheat Transfer EquationsBased on the Volume Averaging Theory; Chapter 2: Mathematical Models of Mass Transferin Tissue for Molecular Medicine with Reversible Electroporation; Chapter 3: Hydrodynamics in Porous Media with Applications to Tissue Engineering; Chapter 4: Biomedical Implications of the Porosity of Microbial Biofilms; Chapter 5: Influence of Biofilms on Porous Media Hydrodynamics; Chapter 6: Using Porous Media Theory to Determinethe Coil Volume Needed to Arrest Flow in Brain Aneurysms Chapter 7: Lagrangian Particle Methods for Biological SystemsChapter 8: Passive Mass Transport Processes in CellularMembranes and their Biophysical Implications; Chapter 9: Skin Electroporation: Modeling Perspectives; Chapter 10: Application of Porous Media Theories in Marine Biological Modeling; Chapter 11: The Transport of Insulin-Like Growth Factor through Cartilage; Chapter 12: Biotechnological and BiomedicalApplications of Magnetically Stabilized and Fluidized Beds; Chapter 13: In Situ Characterizations of Porous Mediafor Applications in

Sommario/riassunto

Presenting state-of-the-art research advancements, Porous Media: Applications in Biological Systems and Biotechnology explores innovative approaches to effectively apply existing porous media technologies to biomedical applications. In each peer-reviewed chapter, world-class scientists and engineers collaborate to address significant problems and discuss exciting research in biological systems.The book begins with discussions on bioheat transfer equations for blood flows and surrounding biological tissue, the concept of electroporation, hydrodynamic modeling o